



PATENT CASE NAME/NO. 281-334

2858
J. Dole
7/A
7/21/03
Drawing

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor: Burdick et al.
Serial No: 10/058,191
Filing Date: 10/26/01
Title: CAPACITIVE SENSOR

Group Art Unit: 2858
Examiner: Dole, Timothy J

RESPONSE

Assistant Commissioner for Patents
Alexandria, VA 22313-1450

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail, addressed to Mail Stop: Office Action Response, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on July 9, 2003.

Lynn L. Pond

RESPONSE TO THE EXAMINER'S OFFICE ACTION

In response to the Office Action dated 4/9/03, designated as Paper No. 6 in the above-captioned application, please enter the following amendments and Remarks as follows:

In the Specification

Please replace the last paragraph on page 1 of the Specification with the following amended replacement paragraph:

The electronic circuit used in the conventional approach employs a three-inverter oscillator circuit that converts the capacitance of the capacitive transducer to a square wave. The frequency of the square wave is easily measured by a microprocessor, or by some other means. Figure 1 is an electrical schematic of a conventional three-inverter oscillator circuit. The circuit includes three inverter gates G1, G2, and G3. Typically, each gate includes protection diodes. The biggest problem with the circuit depicted in Figure 1 is the conduction of the input protection diodes of the threshold detector stage G1. In order to mitigate the effects of the diode conduction, the conventional design employs resistor R3. Depending on its value, R3 either reduces or eliminates the diode conduction. However, as R3 reduces diode errors, it amplifies errors introduced by other components in the oscillator. The direct effect is increased sensitivity to changes in capacitance of the internal circuit at the input of